

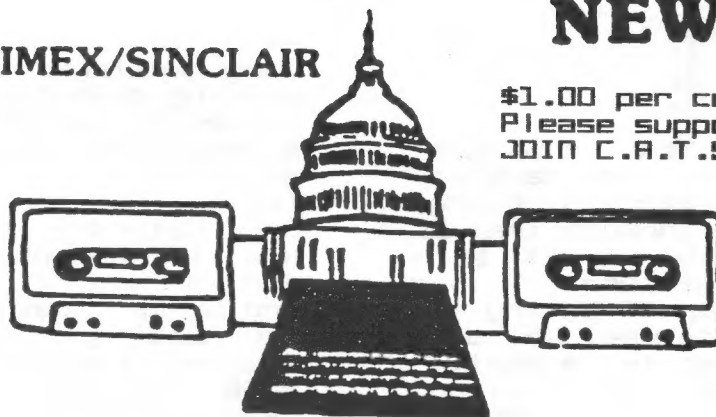
CATS

CAPITAL AREA TIMEX/SINCLAIR
USERS GROUP

NEWSLETTER

\$1.00 per copy
Please support your computer
JOIN C.A.T.S.!

Volume 5, Number 7



October, 1987

IN THIS ISSUE

Potpourri.....	3
QL on the QT.....	4
Double Disk Drive.....	5
George Rey's Case.....	5
Constitutional Celebration.....	5
Tape Library Information.....	5
Behind the Mask: The Logic of Archive.....	6
Constitution and By-Laws.....	8
CATS Meeting Program Schedule...9	
TS 2040 Printer Switch.....	10

Build a Spectrum Romswitching Circuit for your TS-2068.....	11
Alternate Character Set for the Spectrum or 2068.....	11
The World of CP/M.....	11

CONTRIBUTORS

Tom Bent	Mark Fisher
Vernon Smith	David Gaulch
Hank Dixon	John Ezike
George Rey	Gary Lessenberry

PRESIDENTIAL RAMBLINGS

Well this certainly has been quite a month! The picnic was a great success. There were 22 eager Sinclairists who braved the beautiful weather and very pleasant surroundings of the Greenbelt Park and enjoyed the comradery of their fellow CATS members. We had some fun too! There were very few computers on hand for the festive occasion so we had to rely on natural instincts to survive. There were marshmallows on sticks vying with hamburgers for the heat of the roaring fire, interesting flight simulations accomplished with whirling frisbees and some rather innovative excavations done by judiciously positioning lawn darts!

The only real casualties of the day were the delicate individuals replete with the notion that reaching into a large can full of ice, groping for the soda of choice was a simple task. Hey, what can I say? There is a catch to every adventure story.

Meanwhile, back in the real world, The CATS group strikes again! 26 QL's have been purchased at \$91 along with 15 - 5 1/4" quad disk drives at \$67. That's quite a feat for

any group. I expect that the \$70 RGB monitor buy will be caught up by this month too.

If you didn't know about the group buys going on, it is probably because some of them transpire rapidly. If you are interested in finding out more about them, please feel free to come to the regular meeting or the executive meeting which is normally held on Tuesday night, 10 days after the regular meeting. The meeting place varies so give either myself or one of the other officers a call for information.

A few of the members with the new QL's have had trouble with getting output on the new RGB monitors. We are working on the problem and believe it to be an impedance mismatch of some type. If you have a problem, let us know. I have a couple of new fixes for the QL and hope to have a ZX8301 buffer board soon.

Tom

FROM THE EDITOR

As I promised when I took over the Editor's chair, the newsletter will try to cater to everyone, 2X81 users through the QL types. This month we will kick off the first of what I term "focus" issues, spotlighting the 2068. In future issues, we will devote 2 or 3 pages to a particular machine or application. Another feature is a monthly hardware project, hopefully on the machine that we feature. When we are into applications, this may be a little hard, but bear with me and I'll come up with something. The number of pages will be determined by what is available through our own resources and from the various newsletters that cross my desk.

While the box on this page says that hard copy is accepted, and it is, I will reiterate the plea I made at the meeting. If you have an article that was done on the QL, please give it to me on magnetic media. Any type, except 3" (Tim Acord, take note), will be fine. The reason for this is that it will allow me to set the article up within DTP and use the program to the fullest. Hard copy puts me at a disadvantage, since it may or may not be the same print density as the rest of the newsletter. My plan is to run all of the DTP pages at the same time which will give a uniform density which should go a long way toward eliminating "washed out" pages. The clips from the other newsletters are hard enough. But wait! A true "computer based" solution is on the way. As soon as I am more familiar with my Q_Link program, I'll have a couple of hours each week where you can dump your submissions to me via Ma Bell. Isn't high tech great?

In this issue, we conclude the hardware project started last month, a switch for the 2040 printer. Mark Fisher continues his journey through QL theory and applications programs, with a look at Archive. A special word of thanks to Mark is in order. He is an editor's godsend. He always has a timely article and they are

easy to understand, a quality many writers (especially those writing computer articles) have failed to master. George Rey has a sequel to his September article on members' interests, this time laying out the subject area of our Saturday meetings for the next 12 months. You will also find a copy of the Constitution and By-Laws passed at the September meeting. Finally, the "Focus" section contains some excellent 2068 articles gleaned from the newsletters we've received.

I hope you enjoy reading this issue as much as I had putting it together.



OCTOBER MEETING AGENDA

- 11:00 Hardware Workshop
- 11:30 Programmer's
Workshop
- 2:00 General Meeting
- 4:45 Adjourn

Demonstration: **Archive Files by
Mark Fisher**

NEWSLETTER SUBMISSIONS

Submissions for the newsletter can be in hard copy, with columns 35 characters wide, or, preferably, magnetic media. For the QL, microdrive cartridge, 5 1/4" DS/DD or Quad density disks, or 3 1/2" disks. For the 2X81, TS1000, or 2068, cassettes only, with titles on the box.

Send material to:
Editor, CATS Newsletter
Box 467
Fairfax Station, VA 22039

POTPOURRI

News Around the Beltway

Programming Class to Start

For those members that don't need to attend the hardware session but still want an excuse to get out of the house a little early, we have just the answer! Duane Parker will conduct a programming class, starting with the October meeting. At press time he was still being mysterious about the specific subject matter but promised to give me the seminar topics in advance for future newsletters. The class will start at 11:30 AM in the large meeting room. With all of the new QLs, there should be a lot of interest in programming these jewels. Give it a try.

QUANTA: STILL THE BEST BUY AROUND

For those people that have nearly everything (especially now that you've got a QL), why not consider joining QUANTA, the international users group? Tom Bent is the U.S. sub-librarian and he told me that the library has been completely reworked. No more microdrive cartridges because many of the new programs just won't fit. Many of the old programs have been updated and there are 4 disks of new material. New material includes a disassembled listing of the JS ROM, a 750K adventure game, and a revised Page Designer. It now takes up nearly a whole disk! This is certainly a cheap way to get into desktop publishing!

You join by subscribing to QUANTA and then you automatically have library privileges. The monthly newsletter consists of members letters crammed full of excellent QL information, program reviews, and interesting applications.

For further information contact Tom Bent. To subscribe to QUANTA write to Brian Pain, 24 Oxford Street, Stony Stratford, Milton Keynes MK11 1JU. Dues are 17 pounds Sterling (approx \$28) and they take MasterCard.

Think of it as an early and well deserved Christmas present. Its certainly a lot more useful than a tie you'll never wear.

PICNIC IN THE PARK REPORT

Twenty-one people attended the "first annual" Picnic in the Park on September 26th. The weather was glorious and Tom Bent is taking all the credit for it, since he picked the date two months before. I'm sure that many will want to have a "second annual" event, if for no other reason, than to see if Tom's luck can hold out.

REMINDER

Hardware workshop
now starts at 11:00 AM

DECEMBER PROGRAM—Let George Rey know what you want for a Christmas theme. Last year we had a Sinclair gift swap. This year, the same but weighted toward the QL? Watch the December newsletter for details and/or instructions.

QL on the QT

by Vernon Smith

Its nice to know that someone reads my column. Bob Howard, one of our out of town members, writes, "...I'm not sure you are commenting on Front Page Extra from experience, and it and DP's Desk Top Publisher are not inferior to IBM programs or those of the Amiga." I promised to answer all my mail, so a reply is in order. First, I always try out a program before I comment on it. I don't care what a magazine says. I try to give my opinion on how I feel about it, hoping that I represent the user that is applications oriented. I've always said that I'm not an expert or a "guru". I feel that there are enough reviews by "power users" and not enough by average persons. I have a copy of FPE and I still feel that it is not as "user friendly" as DTP. If it takes too long to learn how to use a program, I'll try something else. That's what I felt about FPE. Let's face it, I'm lazy. More importantly, I refuse to be co-opted by the medium--computers work for me and not vice-versa. I compared FPE with the original DTP and thought DTP was better. I've just recently been able to work with the up-graded version of DTP for fully expanded QLs. WOW! It has solved the text entry and default drive problem and has a lot more new features. I will yield on the inferiority issue. However, only recently has there been anything on the market really worth bragging about, besides the Psion software that came bundled with the QL and the Tony Tebby Toolkit. Spellbound, TechniQL, Taskmaster, DTP, the Editor (though I think it would be more widely used if it had on screen prompts), and a handful of utilities are all that comes readily to mind. Isn't it amazing that in 3 out of the 4 areas that were covered by the original Psion software (business graphics, database management, and spreadsheet), no one has come out with a better program? This

despite the fact that most serious users have expanded the memories of their QLs out to 640K which means that you could really put together a fancy data base management or spreadsheet program. I'm high on the QL. My IBM PC/XT goes unused at work because I've a second QL there. I'd just like to see software that exploits the full medium. Surely commercial software should be at least as good as that which can be obtained from the Quanta library? Its too bad Uncle Clive didn't put a 3 1/2" drive in place of the 2 microdrives. If he had, the QL would still be going strong and have blown away many of the inferior machines that survive today. Alan Sugar take note!

Last month I told you about my Epson HI-80 plotter. I've had a chance to use it and I really like it. Easel v.2.3 software has an Epson plotter drive and so does Talent's TechniKit, which is a complimentary program to TechniQL. Replacement pens and a programmer's manual are available from Epson America (800) 421-5426. Just one word of advice. When you plot your graph, use the 64 column mode. This will allow you to print the entire graph. Using the 80 column mode means you will cut off the last few columns on the right and have an open-ended graph. Also, by removing the Prompts (F2) you can increase the size of your graph.

I had a talk with Peter Hale of EMSOFT and he is putting the final touches on TAX-I-QL/87, a really superb program. The original TAX-I-QL came out a little late last year so many of you may have missed it. This year it should be out by mid-December. Right now he is waiting for the IRS to finalize a few more forms. When he gets them done he will be able to ship the program. It has been completely rewritten to take into account the massive changes in the 1986 Tax Bill and will have built in Tax Tables. You will need to have at least 256K memory expansion and for floppy disk users it will print directly to IRS forms! If you only buy one piece of software this year, TAX-I-QL/87 should be

it. When you look at the prices for IBM/"clone" tax programs, you will see this is an outstanding value. The price is \$18.95 if you buy before 11/29/87 and \$21.95 after. My check is in the mail. Peter's address is: Estate Management Services/EMSOFT, P.O. Box 8763, Boston, MA 02114-8763.

DOUBLE DISK DRIVE SHOWN

BOB AND ANN WARNER, longtime CATS members, displayed at the last meeting a neat dual disk drive they discovered in the COMPUTER SHOPPER which appears to be usable with the Sinclair family of computers.

It is made by PERIPHERALS DIRECT, P.O. Box 4301, Northbrook, IL, 60065; phone 800-332-9988. The drives use 3" compact disks, each holding 180 Kb per side. The drives format up to 360 sectors.

The dual drives are priced at \$25 each in quantities of four(!), plus shipping. The disks are about \$4 each, less when ordered in bulk.

Bob is experimenting now to find the right combination disk interface card and card-to-drive cable to make this unit a true S.P. (Sinclair peripheral).

Watch this space!!

GEORGE REY'S CASE

GEORGE REY, CATS vice-president, has come up with a slick way to make a case for an otherwise naked CRT, color or mono.

He has found that the poly carriers used by dairies to hold four one-gallon milk cartons are just the right size for a 13-inch CRT.

He cuts here, bolts there, covers gaps with various material, and ends up with a fine solution.

George showed us at the September meeting the materials needed. Some time soon we anticipate he will be showing us what a finished product looks like.

C.H.D.

CONSTITUTIONAL CELEBRATION

At the September meeting, an overhauled version of the CATS Constitution was--after much discussion--unanimously adopted.

Constitution Committee Chairman TED OSHEROFF made several suggestions to further strengthen the draft under consideration. Both they and the balance of the Constitution were accepted enthusiastically.

Besides Chairman Osheroff, the committee consisted of PHIL BOOK, HANK DICKSON, RUTH FEGLEY, SAM LEFKOV, and GEORGE REY. They labored not quite as long as the Constitutional Convention of 1787, yet produced a somewhat wordier document.

In the future, reprints of the CATS Constitution will be available from Treasurer RUTH FEGLEY.

TAPE LIBRARY INFORMATION

Tape library privileges are only available to full (\$18) members. Tape charges, per tape, are \$3 for mail order and \$1 if picked up at the meeting.

Mail order requests and submissions for publication should be sent to the tape librarian:

Rev. John Riley
120 N. Fairlawn Drive
Carrollton, GA 30117

Make checks payable to C.A.T.S.

We will continue to "compensate" authors whose programs are used at the rate of one tape per program.

Behind the Mask: The Logic of Archive

by Mark Fisher

Archive is a remarkably flexible database program. There are very few data processing tasks that it cannot efficiently carry out with the aid of an appropriately designed program. But that flexibility is achieved at the cost of immediate ease of use. The beginner must either blindly copy programs, or buy ready-made templates. (This was anticipated by the designers of Archive, as they included methods of "locking" programs.) I believe that a general background knowledge of the design of Archive can make it easier to learn the detailed information about each element of an Archive program. This article will not attempt to be a tutorial on Archive programming - rather, I will attempt to give you a feel for how the program deals with its data and its owner.

The description that follows is somewhat discouraging, I'm afraid. The fact is, we Timex users aren't used to dealing with programs of this level of complexity. In response to this, you can either; buy only canned applications for Archive, living within the limits the writer set for you, or sit down and puzzle out the hidden structure of this data base program. If you choose to do the latter, please read on.

Background: Programs and Computers

If you are a typical QL owner, you've started with the earlier Timex/Sinclair machines. The operating systems for these devices were designed to perform well using cassette-based mass storage. The QL was designed from the outset to use software-controlled mass storage. So what? Well, aside from the speed potential of the more expensive systems, a cassette player must be operated by the user, while a microdrive or disk system is easily controlled from within a program.

If a program and data must be loaded "by hand", it is necessary to store all the data in RAM, in order to manipulate it. In practice, this has meant that both program and data can occupy no more than 48K (allowing for 16K of operating system). Imagine trying to alphabetize a list, when half of the entries are waiting in a tape, rather than sitting in RAM! The 2068 has had extended memories developed for it, but the basic, elaborate software for word processing and data management was developed for the original, bare-bones machine. Disk systems have been

developed as well (this manuscript is being written on one), but, again, the software was not updated - by the time the disk systems were coming out, 1000's and 2068's were well on their way to becoming orphans. Jack Dohaney is one of the few to have spent the time necessary to produce a smooth-running disk version of a major program - and even it won't handle files beyond 16K.

With the QL, the machine was designed from the ground up to use "automatic" mass storage systems. (By automatic, I mean systems that can be completely controlled from software, without the operator's intervention.) In turn, this allowed software developers (read Psion) to write programs that had the potential to manipulate blocks of data that were bigger than available RAM. How? by loading only the immediately necessary data into RAM. If other data was needed, it was simply "read in" from the mass storage. In case you hadn't figured it out already, this involved multiple headaches for the developers - and guess what! They passed some of them on to you.

Coping with ARCHIVE: Files

So - Archive was written for the QL-and-mass-storage combination. So what? It means that Archive is not a single program, as Vu-file was in the Timex machines. Rather, it is a set of linked files. Ahh yes. Files. In the 2068, we had a few varieties of files - program files, screen files, CODE files. Remember winding the cassette back and forth to find the right section? The QL keeps track of the contents of each disk or wafer in a directory. The directory provides information on the name, status, and position of the files on that wafer, so that the QL can immediately (more or less) load a particular file on demand.

The basic Archive program is one file, while separate files hold the BASIC program that starts the process off (the 'boot' program), the help files, and the data. Even the data is not a single file, but is divided into further types of files, identified by their suffixes as _pgm, _dbf or _scr files. In operation, various combinations of these are loaded into RAM at any one time. Each type of file has its own special quirks; I'll cover some of them below.

_PGM Files

I have referred to Archive as a program, but it is more accurate to think of it as a data-handling language. "Out of the box," it will operate at only the most primitive level. Remember trying to operate in BASIC via direct commands?

You could type PRINT 2+3, and the answer appeared on the screen. If you wanted to try again, the entry had to be typed again (Archive works the same - boot it and try!). The answer, of course, was the BASIC program. Again, Archive is the same; programs written in are held as (you guessed it) files, with a "_pgm" suffix. In practice, "Archive" is a language much like Pascal - there are no line numbers, and subroutines are referred to by name. "Archive" commands and functions are NOT identical to the QL's Super-BASIC; there are a number of annoying differences, as well as a completely different editing procedure. Hmmm.

As you write a program in "Archive", you will be using variables to temporarily store needed information. It is important to remember that these variables are separate from the fields of your data record. You can move information from one type of storage to the other, but it won't happen automatically.

_DBF files

These are the files that hold that data (finally!). I've mentioned that not all files need to be loaded at once. Well, in fact, the QL doesn't even need to load all of a particular file in at once. But what if an item is added or deleted? the developers introduced the concept of "OPENing" a file. A file can only be worked on if it has first been OPENed. A major contributor to the flexibility of the Archive system is that more than one file can be opened at a time. At this point, the operating system will draw data as needed into RAM for manipulation. Essentially, one record at a time is held in RAM. Archive uses the concept of the current record - only the current record can be modified at a given time.

Files must also be CLOSEd - when you CLOSE a file, all changes to the data are recorded to the disk, and a flag set in the directory, telling Archive that the file is now safe. Whose responsibility is it to OPEN and CLOSE files? Yours.

_SCR Files

These are screen templates, that provide you with a way to "humanize" your programs. I'll discuss their use more below. The Help files are actually a series of linked _scr files. Editing is awkward, as usual - but better than D-Base II.

The Last Detail

Now we know that "Archive" is actually a language, that everything is held as a file, and

that some parts of the suite can be left on the mass storage while the program is working. We're ready to write, right? Not quite. Archive uses a three part division of data storage. Let's see - 1) mass storage, 2) RAM, and 3) ??? Okay, I'll tell; the SCREEN. You can have Archive and your program file in RAM, the data file opened on the disk, but still be unable to view the data.

There are three ways to get the data to the screen: 1) The simplest, and least flexible, is to use the DISPLAY command. All the fields in the current record structure will be placed along the left margin, and the contents of the current record's fields will be filled in. 2) If you find the "stock" format too confining, you can design your own format with the screen editor. These screens can contain both "permanent" text and space for data fields from the current record. They are held as _scr files, and can be invoked by SLOADing them, then activating them with the command SCREEN. 3) For the most flexible displays, you can PRINT it, using a program routine.

AND. The data on the screen will not necessarily change as you change the current record. THAT must be done with an SPRINT command, after you have moved to the new record. Without a SPRINT, you will be looking at whatever was last sent to the screen, even though the current record may have changed.

Conclusion

I'll recap the overall structure. Archive acts as a second operating system for the QL, converting it from a general purpose computer to a data-processing machine. The workings of your application are determined by a _pgm file, written in "Archive". This _pgm will have its own variables, independent of the data. As well, it must account for the three part storage of the data; in mass storage, in RAM and on the screen (or printer). No part of the data will exist exclusively in one of those places, until you CLOSE your files and remove your disk before turning off the machine.

I hope that this information will help you in following the tutorials that have been written, or in seeing ways to modify existing program applications. In the future, I'll be writing an article covering a telephone list application that I've developed. It won't be a full tutorial - that would take a book, and I've reviewed two of them in this N/L - but I hope that by sharing it, more people will be encouraged to jump into the swirling, but productive waters of Archive.

CATS CONSTITUTION

APPROVED

On September 12, the membership approved the Constitution and By-Laws below. The Committee (whose names are listed on Pg. 5) is due our vote of thanks.

In the event of the resignation or other incapacity of the President, the First Vice-President shall serve as President until the next Annual meeting.

Section Three: Second Vice-President.

The Second Vice-President shall be responsible for arranging suitable programs for the general meetings and shall assist the First Vice-President when called upon to do so.

Section Four: Secretary

The Secretary shall keep a written record of all meetings described in Article Three and shall be responsible for notifying all members of the Executive Board of the date and location of its meetings.

Section Five: Treasurer

The Treasurer shall receive and disburse all monies belonging to CATS. No expenditure shall be made by the Treasurer without the approval of the Executive Board (see Article Eight Section One). The Treasurer shall keep an accurate record of general organization accounts and shall report on the state of the finances of CATS at the General meetings. On the expiration of the term of office of the Treasurer all monies, accounts, records and receipts shall be turned over to the incoming Treasurer.

ARTICLE SIX: Election of Officers

Section One: Term of Office

The term of office shall run from July 1 to June 30.

Section Two: Nominations

A Nominating Committee, appointed by the President and approved by the Executive Board, shall present a slate to the membership at the May General meeting. The final slate will be published in the June newsletter.

Section Three: Elections

The Nominating Committee Chairman shall conduct the election of officers during the Annual meeting.

ARTICLE SEVEN: Membership, Dues, and Newsletter subscriptions

Section One: Membership

A membership in CATS shall last for twelve months and shall include a Newsletter subscription. A membership may include an entire family, but it entitles the family to only one vote.

Section Two: Dues

Dues shall be determined by a majority vote of the membership at a General meeting.

Section Three: Non-member Newsletter Subscription

A Non-member Newsletter subscription shall be available for a twelve month period. Its rate shall be determined by the Executive Board.

ARTICLE EIGHT: Finances

Section One: Obligations

Authority for the payment of bills shall be made by the Executive Board.

Section Two: Authorized Signatures

CATS' checks shall be signed only by the Treasurer or President.

Section Three: Audit

An audit of all CATS' financial records shall be conducted immediately following the closing of the Treasurer's term of office and shall be presented to the membership at the next General meeting. The audit shall be conducted by two members of CATS who do not serve on the Executive Board. They shall be appointed by the President and approved by the Executive Board.

Section Four: Projects

Official projects shall be approved by the Executive Board. Monies from all official projects of CATS shall be routed through the Treasurer. No property of CATS shall be disposed of without a majority vote of the membership at a General meeting.

ARTICLE NINE: Standards of conduct

It is the policy of CATS that software piracy and theft of intellectual property are incompatible with its goals.

ARTICLE TEN: Amendments

This Constitution may be amended by raising the issue with the Executive Board. If the Board supports the change by its majority vote, the proposal shall be printed in the Newsletter and presented at the next General meeting. A two Thirds (2/3) vote of the membership present shall be required to approve the proposed amendment. The final version shall be printed in the next Newsletter.

ARTICLE ONE: Name of organization

This Constitution creates an organization to be known as the Capital Area Timex/Sinclair Users Group (CATS). CATS shall be a voluntary, not-for-profit organization.

ARTICLE TWO: Purpose

Section One: General

The purpose of CATS shall be to create and maintain a spirit of helpfulness among owners and users of the Timex/Sinclair (T/S) family of computers, and to educate the membership in the uses and applications of these computers.

Section Two: Newsletter

CATS shall publish a Newsletter monthly, or otherwise as the Executive Board (see Article Four Section Three) shall direct, to record the activities of CATS, to announce events of interest to the membership and to exchange ideas concerning T/S computer matters.

Section Three: Miscellaneous

CATS shall serve as a clearinghouse for information on the T/S family. It shall act as a group to make discount purchases. Cats does not assume any obligation to intervene on behalf of any member or other person in connection with any legal proceeding.

ARTICLE THREE: Meetings

Section One: General

Meetings shall be held on the second Saturday of each month or as the Executive Board may direct. Organizational business may be transacted at any meeting at which a quorum (see Article Three Section Four) is present. The meetings shall be conducted in accordance with Robert's Rules of Order Revised.

Section Two: Annual

A meeting shall be held each year in conjunction with the June General meeting for the purpose of electing officers.

Section Three: Executive Board

There shall be a meeting of the Executive Board each month chaired by the President or a Vice-President.

Section Four: Quorums

A quorum for the General and Annual meetings shall consist of 20 members. Five shall constitute a quorum for the Executive Board meeting.

ARTICLE FOUR: Officers, Newsletter Editor, and Members-at-large

Section One: Officers

The officers of CATS shall consist of a President, a First Vice-President, a Second Vice-President, a Secretary, and a Treasurer. All officers shall be members of CATS and shall serve without compensation.

Section Two: Newsletter Editor and Members-at-large

A Newsletter editor and three additional members of the Executive Board, all of whom shall be members of CATS, shall be appointed by the President and approved by a majority of the elected officers.

Section Three: Executive Board

The elected officers, the Newsletter editor, and the three Members-at-large shall constitute the Executive Board.

ARTICLE FIVE: Duties of Officers

Section One: President

The President shall preside at all meetings described in Article Three, shall appoint and abolish temporary committees and shall represent CATS to the general public.

The President shall appoint a replacement for any member of the Executive Board who resigns or becomes unable to serve, subject to the approval of a majority of the Executive Board.

Section Two: First Vice-President

The First Vice-President shall preside at meetings in the absence of the President, shall represent CATS to the general public in the absence of the President when directed, and shall be responsible for arranging and publicizing events and projects of CATS.

CATS MEETING PROGRAM SCHEDULE

Month	M E E T I N G T O P I C S Category/Subject----Title and/or Description	Available Material	Chair Person
Nov	Uses/General-- QL and Superior Sinclair Tech	VHS*	
Dec	Hard.Mods/IFace-- Printers and Printer IF's	VHS*	
Jan	Peripherals/IO Devices-- Tape to Disk Copies	Open	
Feb	Uses/Programs-- Graphics on the 2068/Spec	VHS	
Mar	Hard.Mods/-- Hardware IF's - Pt I	VHS	
Apr	Instruc/Programming-- The Forth Language (Mach Code for ZX 81)	VHS VHS	Parker
May	Uses/General-- Cottage Industry & the Computer	VHS	
Jun	Peripherals/Modems-- RT Discussions of TS Tele	VHS	
Jul	Hard.Mods/IF-- Hardware IF's - Pt II	VHS	
Aug	-----O--P--E--N----- (Yearly Questions and Answers Jamboree)		
Sep	Uses/Programs-- Desk Top Publishing (Compuserve)	VHS VHS	
Oct	Peripherals/Systems-- Misc Perf's(Mon/Print/etc)	Open	

NOTES: * Tape currently available. (Alternatives)

The above is the tentative meeting topic schedule of programs for the coming year as approved by the executive board. It is based on the interest survey, is flexible but subject to change as conditions warrant. We need volunteer chair persons to set up, conduct, or help with the programs. Contact me at (301) 262-2968 or at meetings to discuss what is involved.

GEORGE REY

CATS 9 OCTOBER

focus on:

TIMEXsinclair

2068

Selected articles from other
users groups' newsletters

TS 2040 PRINTER SWITCH

by John Ezike

From 28 Appeal, Vancouver Sinclair Users Group-Summer, 1987

Concluded from the September issue

Now refer to Fig.2. Retrieve the top half of the case and with a drill or some other suitable device, drill a 1/4 inch hole to mount the switch. Place the two case halves together and drill another hole, just large enough to fit the LED, centered where the cases halves join. **DON'T DRILL AROUND THE PRINT MECHANISM!!** Mount the switch in the 1/4 inch hole. It'll be a little cramped so take your time. Solder the free end of the wire connected to 'C' to the center terminal of the switch. Solder the free end of the wire connected to 'D' to either of the two outside terminals on the switch. Replace the PCB in the lower half of the printer case, making sure to align the notches on the side of the PCB with the tabs in the case. Replace the printer mechanism. The rubber grommets in the flanges should be flush with the top of the screw posts. Plug in the two ribbon connectors, pushing down firmly but carefully to make sure they are in all the way. Bend the LED forward so it rests on the groove formed by half the hole in the bottom half of the case and protrudes about 1/8 inch outside the case. Make sure the LED leads are apart. Hold both case halves together, turn over, and replace the screws.

Plug in the power. If the LED is lighted, the switch is in the 'on' position. If it isn't, try the other switch position. If the LED still does not light, quickly unplug the power,

open up the printer and check the connections, especially the installation of the LED, looking for solder bridges and/or bad joints. If no problems and the LED is lighted, insert the paper and perform the self-test procedure as described in the printer manual.

If all goes well, **CONGRATULATIONS!!!**

To use the printer after plugging in: turn the new switch 'on', and press the 'on' button. When finished just turn 'off' the new switch - no need to unplug. This project should also work for the Alphacom

Editor's Note: I substituted a Radio Shack #275-1565 push-on push-off switch for the one in the article. The placement is very important. I suggest if you do use this switch that you drill the required hole on the top surface to the left of the paper roll at least two inches from the front edge.

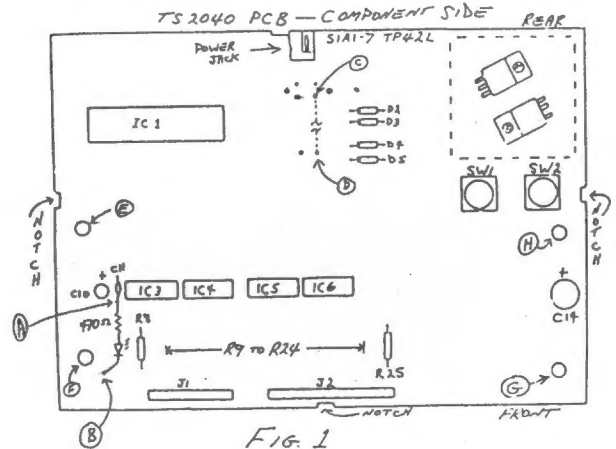


FIG. 1

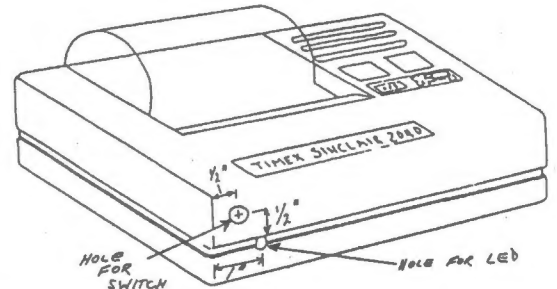


FIG 2

Build a Spectrum Romswitching Circuit for your TS-2068

By Gary Lessenberry
From SLUG Newsletter, Sinclair Louisville Users
Group, June 1987
Originally published by CRTUG, Nite-Times News

I recently purchased some Spectrum ROMs from Zebra Systems with the hope that I might be able to make my own Spectrum romswitching circuit without paying the high price of those circuits that are commercially available. When I examined the TS-2068's ROM circuitry, I realized that this was an easier task than I had originally assumed! All that I needed was: a Spectrum ROM, an SPDT toggle switch (Radio Shack #275-6725), two feet of insulated wire and two 10K ohm resistors (Radio Shack #271-133)

To start the project, you first remove the top from your computer case by removing the seven screws in the bottom of the case. When you look inside, it will appear as in figure 1. You now remove the Timex ROM (U16). To remove it, gently pry it with a small screwdriver or knife inserted between the socket and the ROM.

It is important that you test your Spectrum ROM before constructing this circuit. To test it, place it in the socket from which you have removed the TS-2068 ROM and energize your computer. The Sinclair copyright should be displayed. If not, your ROM may be defective. After the test, remove the Spectrum ROM.

Take your Timex ROM and place your Spectrum ROM directly over it with the notches in the same direction (see figure 3). There should only be a thin space between the two ROMs and all of their leads should be touching. Do not leave a lot of space between these ROMs because clearance is critical when you reassemble your computer! You will now, very gently, bend pin 20 on both ROMs upward until they are perpendicular to the other pins. You may now solder all of the pins except pin 20. Be careful when soldering. Allow 30 seconds between the soldering of each pin so that you won't overheat and damage the ROMs. To pin 20 of each ROM, you will solder a piece of wire and one end of a 10K ohm resistor. The other end of each 10K ohm resistor will be soldered to pin 28 (+5Vdc). The other end of the two wires that you have coming from pin 20 of the two ROMs will be soldered to the toggle switch. The toggle switch has three pins on it. Two of these pins are labeled "ON". Solder one wire to each of these two pins. Another wire will be soldered to the middle pin of the toggle switch with the other end of that wire going to the circuit board and soldered to V1.

At this point, you may reinstall your ROMs into their socket. A hole must be drilled in the rear of your case for mounting your toggle switch. After the toggle switch has been installed, you may replace the top of your computer. Be careful when reinstalling the top of the computer to ensure that there is proper clearance and nothing is being forced!

Once your computer is reassembled, you may test it out. You can tell which ROM is selected by the printout after initialization. When in the Spectrum mode, the Sinclair copyright will be displayed. When the TS-2068 mode is selected, the Timex and Sinclair copyrights will both be displayed.

If you have any problems or questions, you may call me at (312) 473-9415 or leave me a note at the Mite Owl Special BBS (312) 459-5721.

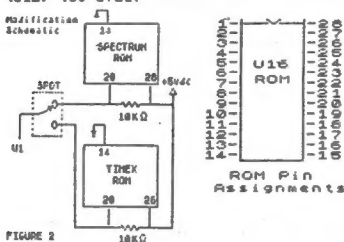


FIGURE 2

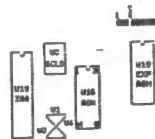


FIGURE 4

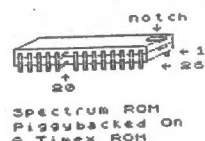


FIGURE 3

Alternate Character Set for the Spectrum or 2068

From The Data Expansion, T/S Users Group of Fort Worth, May, 1987

I know that many of you get very tired of seeing the normal character set for the Timex and Sinclair computers. Then you design a different character set to use to make it look more readable or at least more interesting. I found this one in an old ZX COMPUTING and thought that it looked very good. I am sure that it can be modified to make the program RUN much faster than it does not including using a compiler. Of course, once you have run the program, you can save the CODE and just load that to use whenever necessary.

```

10 REM Alternate Character Set
20 BORDER 6: PAPER 6: INK 0: CLS
30 LET a=PEEK 23606+256*PEEK 23607
40 PRINT AT 21,2: "Enter Spectrum Memory size."
50 INPUT "16 or 48 "ram
60 IF ram<16 AND ram<48 THEN GO TO 50
70 PRINT AT 20,6: "Please Wait 2 Minutes
    Character Set
    being Generated."
    
```

```

80 IF ram=16 THEN LET c=31488
90 IF ram=48 THEN LET c=64000
100 REM >>Transfer and Modify<<
110 FOR n=c TO c+1024: LET b=PEEK a: POKE n,b
120 IF b/4=INT (b/4) THEN POKE n,b*2
130 IF b/8=INT (b/8) THEN POKE n,b*4
140 IF b/16=INT (b/16) THEN POKE n,b*8
150 IF b/32=INT (b/32) THEN POKE n,b*16
160 IF b/64=INT (b/64) THEN POKE n,b*32
170 IF b=66 THEN POKE n,b*32
180 IF b=0 THEN POKE n,0
190 LET a=a+1: NEXT n: BEEP .15
200 REM >>Display Results<<
210 CLS : POKE 23607,c/256
220 PRINT AT 2,9: "POKE 23607,'c/256
230 PRINT " To Obtain this Character Set."
240 POKE 23607,60
250 PRINT AT 8,9: "POKE 23607,60"
260 PRINT " To Return to Normal Characters."
270 PRINT AT 14,0: "SAVE:-SAVE name CODE 'sci',1024"
280 PRINT " This Basic Program may be NEEDED Leaving
Sub-Routine above Ramtop" Press any key to STOP"
290 PAUSE 0: CLEAR c: STOP
300 SAVE "alt char" LINE 1
    
```

The World of CP/M

By David Gaulch

With help from "CP/M and the Personal Computer"

From The Data Expansion, T/S Users Group of Fort Worth, June, 1987

You own a microcomputer, a Timex probably, if you are reading this, an 'old' Z-80 based computer. There are building blocks that will help to extend the life of your computer—the AERCO interface, disk drives and a microcomputer disk operating system. One of these disk operating systems is MS-DOS or Micro-Soft Disk Operating System. Another one, the one being discussed here, was originally called 'Control Program for Microcomputers'; we know it now as...CP/M.

CP/M is a program, or rather a set of programs or tools, that gives the computer operator advanced facilities and special manipulative facilities for the information stored on disks. It resides at the top of user memory (RAM). It is functionally divided into three modules:

1. CCP which means the CONSOLE COMMAND PROCESSOR.
2. BDOS which means the BASIC DISK OPERATING SYSTEM.
3. BIOS which means the BASIC INPUT AND OUTPUT SYSTEM.

Some of these 'facilities' are permanent (e.g. ERA—erase a disk file) and some are transient (called only when a complicated job is necessary). These three modules and other programs are usually all on your CP/M disk. When you do a 'cold boot'; you are loading CP/M: CCP, BDOS, BIOS and the programs or 'facilities' necessary to put CP/M to work.

CP/M resides at the top of RAM where it occupies approximately 8K bytes, and its exact location depends on the size of RAM available. It always uses the first 256 bytes of RAM as a fixed base of operations.

The standard facility names are usually quite brief using a vocabulary like: ERA, DIR, REN, SAVE, TYPE, STAT, ASM, LOAD, DDT, PIP, ED, SYSGEN, SUBMIT, DUMP, and MOVEPH. There are other commands as well. Sub-systems have an even more complex and confusing vocabulary until it is learned. The command structure is broken down into to main categories - built in commands and transient commands.

NOTE: 'ufn' means 'unambiguous filename' being the exact name of the file. 'afn' means 'ambiguous filename' being several files having similar names and can accept ? or * for WILDCARD symbology (any character or group of characters).

SEVEN BUILT IN COMMANDS

- 1) d: ----- changes the logged in drive to drive dix (any one of 16 allowable drives)
- 2) DIR afn ----- lists the names of all files on disk with name afn
- 3) ERA afn ----- erases the file(s) with the name afn
- 4) REN ufn2=ufn1 - renames files (newname=oldname)
- 5) SAVE n ufn ----- saves n (number of pages 1-255) of the TPA (Transient Program Area) on a disk with name ufn
- 6) TYPE ufn ----- lists and ASCII file to the screen. Also possible to list a machine code program to screen
- 7) USER n ----- to distinguish the user n (0-15; default 0) of the disk

NINE TRANSIENT COMMANDS

- 1) ASM - Assembler
- 2) DDT - Dynamic Debugging Tool
- 3) DUMP afn - Similar to TYPE except the file is displayed in HEX
- 4) ED - a text editor
- 5) LOAD - Used to load a .HEX machine language file into a command file
- 6) PIP - (Peripheral Interchange Program) moves copies of programs from one place to another
- 7) STAT - Statistical information about disk file storage and amount of bytes left
- 8) SUBMIT - For submitting a 'batch' of jobs where each job is a CP/M command together with whatever programs are necessary to complete the job
- 9) XSUB - When DDT ufn is executed, it waits for a sub-command which can be supplied ahead of time with XSUB (lets you 'stack' commands)

This is only the preliminary work with CP/M. The programs that 'RUN' under CP/M naturally take advantage of the many resources that are available with this operating system.

CRIS maintains a gratis exchange of newsletters with approximately 30 users groups across the U.S. Clubs not sending a n/l to us for six months are automatically taken off the list.

Monthly meetings are held from noon to 5 PM, on the second Saturday of each month, at the New Carrollton Branch Public Library.

- President Tom Bent
- Vice-President Hank Dickson
- Treasurer Ruth Fegley
- Editor & Vernon Smith
- contact person (703) 978-1835
- Stan Guttenberg
- Bob Lurnutt

is a not-for-profit group devoted to serving the interests of those who own, use, or are interested in the Timex/Sinclair family of computers.

The Capital Area Timex Sinclair Users Group

02X 08S: (505) 522-7081 F100 net 15, node 6, East Coast dial (703) 547-4815 F100 net 18, node 9.

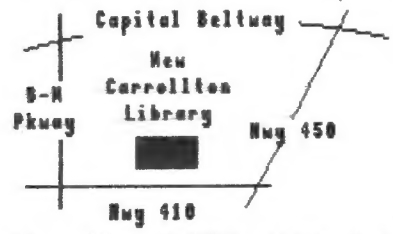
TimeX SIG on CompuServe: Wednes-day night, 10 P.M. Eastern time (60 CLUB).

Networks

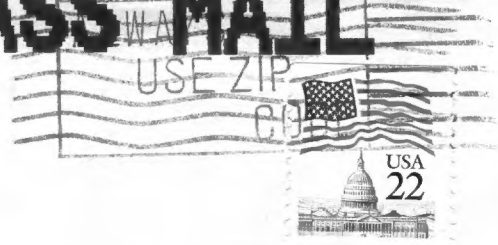
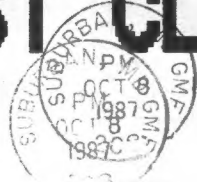
Memberships cost \$18 per year, are good for 12 months, and include all privileges (access to libraries, group bugs, etc.). Newsletter subscription only is available for \$12 per year.

Newsletter

CRIS Newsletter
P.O. Box 467
Fairfax Station, VA 22039



FIRST CLASS MAIL



last issue: *05-88

Donald S. Lambert
3310 Clover Dr. S.W.
Cedar Rapids IA 52404

The next meeting of CRIS will be held on:

Saturday, October 10, 1987 2:00 PM General Meeting
11:00 AM Hardware Meeting

At: New Carrollton Public Library
7414 Riverdale Road (Hwy 410), New Carrollton, MD

IF YOU ARE NOT A MEMBER OF CRIS, THIS IS THE ONLY ISSUE YOU WILL RECEIVE

DUES: \$18 per year, per family